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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,998	03/22/2001	Chihiro Fujisawa	010352	2676

23850 7590 09/05/2003

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WASHINGTON, DC 20006

EXAMINER
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YUAN, DAH WEI D

ART UNIT	PAPER NUMBER
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1745

7

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

49-7

# Office Action Summary

Application N .

09/813,998

Applicant(s)

FUJISAWA ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1745

**NICKEL ELECTRODE FOR ALKALINE STORAGE BATTERY AND METHOD OF  
MANUFACTURING THE SAME**

Examiner: Yuan

S.N. 09/813,998

Art Unit: 1745

August 27, 2003

**Detailed Action**

1. The Applicant's amendment filed on June 18, 2003 was received. Claim 2 was amended. Claims 5-7 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (Paper No. 5).

***Election/Restrictions***

3. This application contains claims 3,4 drawn to an invention nonelected without traverse in Paper No. 4. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144). See MPEP § 821.01.

***Claim Rejections - 35 USC § 102***

4. The claim rejections under 35 U.S.C. 102(b) as anticipated by Gyoten et al. on claims 18-20,22-25 are withdrawn, because the independent claim 18 has been amended and claims 19-21,23-25 have been cancelled.

5. The claim rejections under 35 U.S.C.102(e) as being anticipated by Sakamoto et al. (US 6,129,902) on claim 1 are maintained. The rejection is repeated below for convenience.

Sakamoto et al. teach an alkaline storage battery having a positive electrode of nickel compound. The positive electrode active material is filled into an electrode substrate, which comprises a three-dimensional foamed nickel (conductive) porous body with high porosity. In one embodiment, Sakamoto et al. teach the positive electrode active material particles having a plurality of layers containing a plurality of metal elements in each layer. Specifically, a composite oxide of a plurality of metal elements wherein the inner layer (main active material layer) comprises nickel hydroxide containing cobalt and manganese as solid solution and the surface layer (compound layer) comprises nickel hydroxide containing cobalt, zinc and calcium as solid solution. First, a 2.2 mol/l aqueous nickel nitrate solution, 0.05 mol/l aqueous cobalt nitrate solution, 0.15 mol/l manganese nitrate solution and 4.8 mol/l aqueous ammonia solution are prepared. These solutions are simultaneously fed into the reaction vessel 11. See Figure 2. It is noted that the metal molar ratio of cobalt contained in the main active material layer to nickel contained in the main active material layer is 2.3%, which is in a range of 0.5% to 3.0% inclusive. Subsequently, the resulting particles of an average particle diameter of 12  $\mu\text{m}$  are fed into another reaction vessel 12, which contains 2.2 mol/l aqueous nickel nitrate solution, 0.1 mole/l aqueous calcium nitrate solution, 0.05 mol/l aqueous zinc nitrate solution and 0.05 mol/l aqueous cobalt nitrate solution. As a result, the metal molar ratio of calcium contained in the compound layer to nickel contained in the main active material layer is 4.5%, which is in a range of 0.3% to 5.0% inclusive. In addition, Sakamoto et al. teach the salts of at least one metal element selected from Ti, Sr, Y, Cr and Bi are contained in the second vessel in a larger amount

than that in the first vessel. See Column 1, Lines 16-18, 20-27; Column 2, Lines 43-44; Column 18, Line 37 to Column 19, Line 4; Column 20, Lines 1-4.

***Allowable Subject Matter***

6. Claims 2,5-7 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The invention of independent claim 2,5-7 recites a nickel electrode for an alkaline storage battery comprising a conductive porous member and an active material comprising (a) a main active material layer of nickel hydroxide including cobalt in the state of solid solution and (b) a compound layer formed on the surface of the main active material, containing at least one element selected from the group consisting of calcium, aluminum, strontium, scandium, yttrium, and lanthanoide series, wherein the metal molar ratio of the at least one element selected from the group consisting of calcium, aluminum, strontium, scandium, yttrium and lanthanoide series is at least 20% in the compound layer formed on the surface of the active material layer.

***Response to Arguments***

7. Applicant's arguments filed on June 18, 2003 have been fully considered but they are not persuasive.

*Applicant's principle arguments are*

*The concentration of the solute used for preparing an electrode are not the concentration of a metal molar ratio of cobalt contained in the main active layer to nickel contained in the main active material layer.*

In response to Applicant's arguments, please consider the following comments.

Base on conservation of mass, the molar ratio of cobalt in the main active material layer to nickel in the main active material layer is calculated according to the quantity of starting materials used. A ratio of 2.3% is obtained when 0.05 mol/l aqueous cobalt solution and 2.2 mol/l aqueous nickel nitrate solution are mixed. The instant specification discloses a similar scheme in calculating the metal molar ratio. See Experiments 1, 2 and 3.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1745

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766.

The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Dah-Wei D. Yuan  
August 27, 2003

  
**CAROL CHANEY**  
**PRIMARY EXAMINER**